

ABSTRACT

An apparatus for delivering water vapor to a gas is formed from a plurality of hollow fiber membranes each defining a passage for the flow of gas from an upstream end of the passage and enclosed by an enclosure. The hollow fiber 5 membranes have a combined surface area in the range of about 90 square centimeters to about 110 square centimeters. The enclosure contains an air inlet positioned to direct air to the upstream end of each of the passages of the hollow fiber membranes and an air outlet positioned to direct air from the downstream end of each of the passages of the hollow fiber membranes. The enclosure preferably has 10 a water inlet positioned to direct water toward the outer surfaces of the hollow fiber membranes and a water outlet positioned to direct water from the enclosure.